

Russia's Climate Action and Geopolitics of Energy Transition: The Uncertain and Unsettling Outlook following Russia's Invasion of Ukraine

by Kamila Godzinska and Maria Pastukhova

ABSTRACT

Russia's invasion of Ukraine has profoundly altered the outlook for Russia's energy transition and created uncertainties on the global path towards net zero. In response to global economic shifts, Russia had begun taking steps towards decarbonisation, albeit without plans to depart from its hydrocarbon-based economic model in any substantial way. The new political, trade and financial environment induced by Russia's act of aggression has damaged its potential to maintain the once-emerging momentum. Russia's actions and the Western response are also reconfiguring global energy relations, with profound economic and geopolitical consequences that may, unless managed, undermine international cooperation on the energy transition and slow down progress on climate change mitigation.

Russia | Energy | Climate change | Economy | Sanctions

keywords

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by Kamila Godzinska and Maria Pastukhova*

Introduction

The scale and depth of the multiple crises the world is grappling with as this paper is being written is unprecedented. The global quest for energy transition has been driving global geopolitics for over a decade now. Yet the ongoing energy crisis, coupled with the exacerbated impacts of climate change and the spill-overs that both have on food, health, financial sectors and the broader economy, induce fundamental shifts in global geopolitics, reshaping international relations and relations beyond the state-to-state level for years to come.

Russia's war of aggression on Ukraine, which induced a human tragedy of enormous proportions and pushed the existing multilateral order close to a breaking point, is one of the main drivers of these geopolitical shifts. The role of Russia, which prior to the war was among the world's top three oil producers, the second exporter of gas, one of the key exporters of critical minerals, the biggest country by landmass, the 11th biggest economy and the fourth largest emitter of greenhouse gas (GhG) emissions – will change considerably due to these shifts and will affect the broader geopolitics of energy transition in its turn.

After taking stock of Russia's climate and energy policy and politics prior to the war, this paper will attempt to assess how the war in Ukraine has affected the paradigms emerging in recent times, and to provide an outlook for key trends that will define both Russia's climate and energy relations and the broader geopolitics of climate and energy for the coming years.

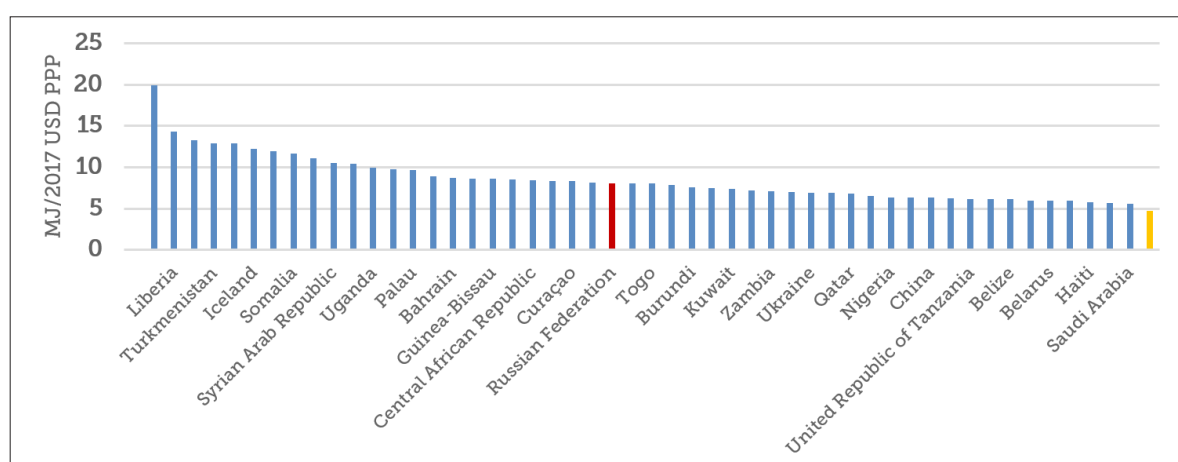
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1. Russia's pre-war climate and energy agenda: A stock-take

Russia had long been deemed a laggard on climate action. Though the political rhetoric has shifted away from outright denial of the risks of climate change¹ over the course of the past two decades, little progress has been made when it comes to the country's climate ambitions or on-the-ground mitigation efforts. While the energy sector is responsible for over three quarters of Russia's GhG emissions, the Russian economy remains one of the most energy-intensive globally.

Figure 1 | Top 50 most energy intensive economies, 2019 (MJ/2017 US dollars PPP)



Source: International Energy Agency (IEA), *Energy Intensity Data Set (SDG 7.3.1)*, last updated 30 March 2022, <https://www.iea.org/data-and-statistics/data-product/sdg7-database#energy-intensity>.

In 2019 it was using ca. 22.4 terajoules (TJ) of energy per US dollars of GDP (over three times the world average²) – a ratio that has not changed since the late 2000s. The government's goal of reducing the energy intensity of the Russian economy by 40 per cent between 2007 and 2020³ has been missed by far, with overall reductions by 2020 amounting to just 3.5 per cent. Space heating remains one of the most inefficient sectors, consuming twice as much energy as in countries with a comparable climate (e.g., Canada).⁴

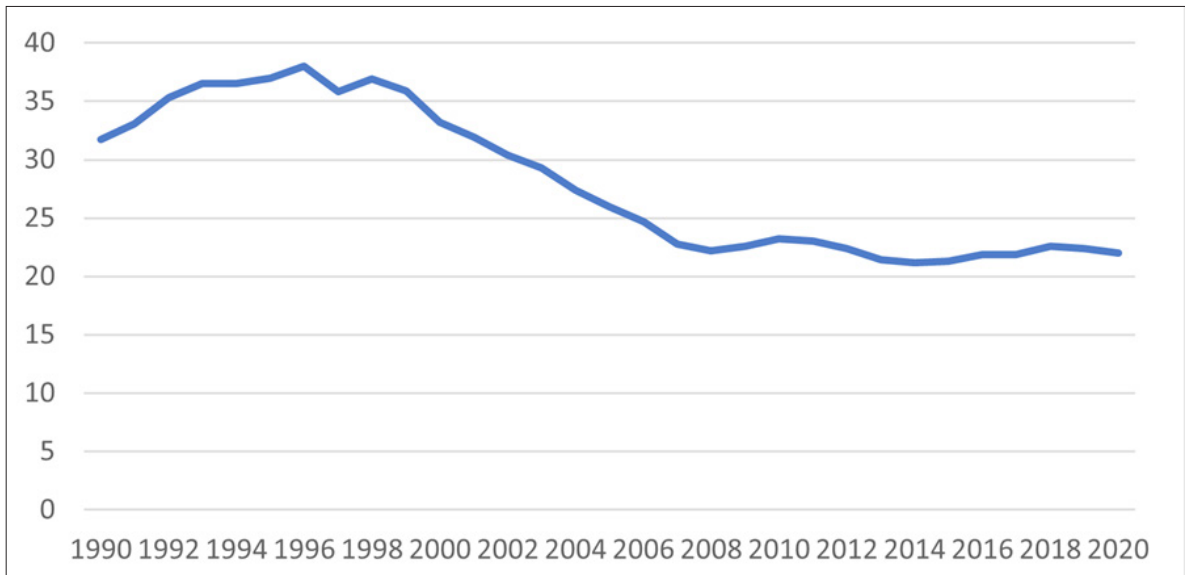
¹ One of the most prominent (and most widely known) examples of such rhetoric is Vladimir Putin's statement that global warming might be good for some parts of Russia as "Russians will spend less money on fur coats". "What the Russian Leadership Said about Climate Change. Dossier" (in Russian), in *TASS*, 17 November 2015, <https://tass.ru/info/2444358>.

² International Energy Agency (IEA), *Total Energy Supply (TES) by GDP, Russian Federation 1990-2020*, <https://www.iea.org/data-and-statistics/data-tools/energy-statistics-data-browser?country=RUSSIA&fuel=Energy%20supply&indicator=TESbyGDP>.

³ Nathalie Trudeau and Isabel Murray, "Development of Energy Efficiency Indicators in Russia", in *IEA Working Papers*, January 2011, <https://doi.org/10.1787/5kgk7w8v4dhl-en>.

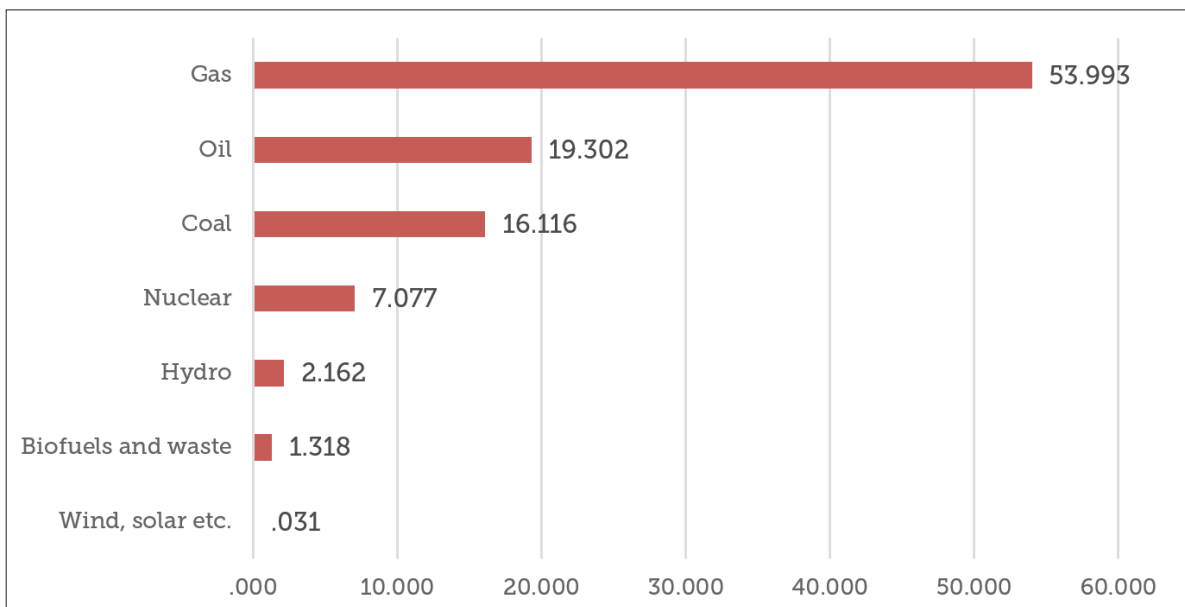
⁴ International Finance Corporation and World Bank, *Energy Efficiency in Russia: Untapped Reserves*, Washington, World Bank, 2014, <http://hdl.handle.net/10986/20675>.

Figure 2 | Russia's total energy supply by GDP, 1990–2020 (GJ/thousand 2015 US dollars)



Source: IEA Data and Statistics, <https://www.iea.org/countries/russia>.

Figure 3 | Russia's energy mix, 2019 (TPS by source, %)

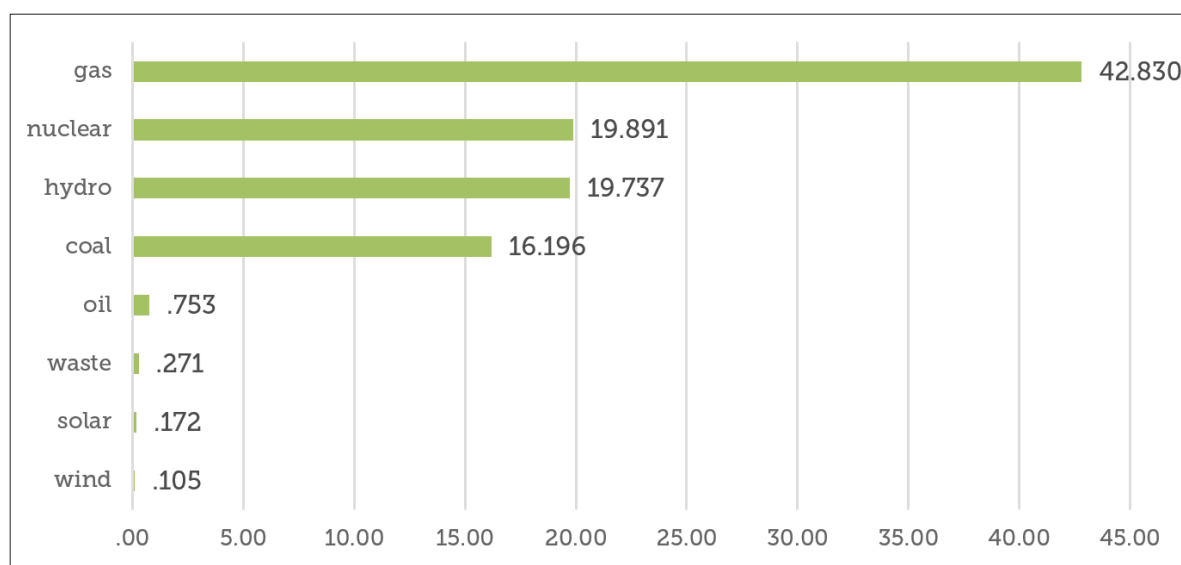


Source: IEA Data and Statistics, 2022 (online database).

Transitioning the fossil-fuel-dominated (see Figure 3) energy mix towards renewable energy has not been considered a priority, beyond using renewables to

secure energy access in isolated areas (see the 2019 Energy Strategy⁵). In the power sector, the modest target of reaching at least a 2.5 per cent renewables⁶ share in the power mix by 2020 was under-delivered, with renewables accounting for circa 0.5 per cent of power generation and 1.5 per cent of the overall installed power generation capacity (see Figure 4).⁷

Figure 4 | Russia's electricity mix 2019 by source (%)



Source: IEA Data and Statistics, 2022 (online database).

The regulatory framework for promoting renewables on the domestic market has advanced since the introduction of renewables to the amended Federal law "On Electric Power".⁸ However, the proposed support mechanisms did not deliver due to a lack of incentives for investors, regulatory hurdles including very strict local content requirements, insufficient support for private consumers to invest in microgeneration (e.g., rooftop solar PV), and most importantly, further expansion of fossil fuel production being the strategic priority of the Russian government.

⁵ Russian Government, *Decree No. 1523-r of 9 June 2020* [in Russian], <http://publication.pravo.gov.ru/Document/View/0001202006110003>.

⁶ Including solar, wind and mini-hydropower facilities.

⁷ Anna Geroeva, "Renewable Energy in Russia: Slow Growth" [in Russian], in *Vedomosti*, 29 April 2022, https://www.vedomosti.ru/ecology/science_and_technology/articles/2022/04/29/920410-vie-v-rossii-medlennii-rost.

⁸ For a more details regarding the evolution of Russia's regulatory framework for renewable energy, see Tatiana A. Lanshina et al., "The Slow Expansion of Renewable Energy in Russia: Competitiveness and Regulation Issues", in *Energy Policy*, Vol. 120 (September 2018), p. 600-609; Denis Chukanov et al., "Renewable Energy and Decentralized Power Generation in Russia", in *SWP Comments*, No. 45 (November 2017), <https://www.swp-berlin.org/en/publication/renewable-energy-and-decentralized-power-generation-in-russia>.

Climate ambition has been lacking even though Russia has been a signatory of both the Kyoto Protocol and the Paris Agreement. Russia's nationally determined contribution (NDC), for the first time submitted in 2020, set a target for the reduction of GhG emissions to 70 per cent of the 1990 level by 2030⁹ – an extremely unambitious target, allowing Russia to further increase its emissions in the coming years. Socio-economic changes due to the collapse of the Soviet Union and the subsequent far-reaching economic restructuring from a centrally planned system to a market economy had brought an approximate 40 per cent reduction in Russia's GhG emissions between 1990 and 2000. The emissions have been on a rise since then but have yet to reach the mark of 70 per cent below the 1990 level.¹⁰

The last two years represented a dramatic change of direction in official climate and energy policy, driven mostly by external factors. Among the key drivers were policy decisions that would lead to shrinking demand for fossil fuels in Russia's main export market – the EU (most importantly, the 2021 Fit for 55 package), as well as the proposed Carbon Border Adjustment Mechanism (CBAM) that would, once adopted, affect the competitiveness of Russian heavy industry exports to the EU.¹¹ Changes in the global investment landscape have provided a further major push. The rise of the ESG (Environmental, social and governance) agenda as the "new normal" for major international investors, efforts to establish standards for sustainable finance within taxonomies in the EU, China, South Korea and other parts of the world, as well as the ongoing alignment of major financing institutions with the goals of the Paris Agreement have spurred changes within the Russian investment landscape as well. Along with the slow yet steady rise of the circulation of "green bonds" by Russian banks, the adoption of Russia's green taxonomy¹² in late 2021 has been one of the key developments, aimed at providing a legal framework for national and international investors to accelerate the country's decarbonisation.¹³ The adopted framework turned out to be more ambitious than its prototype, the EU taxonomy,¹⁴ as it includes a science-based threshold for

⁹ Russia, *Nationally Determined Contribution* [in Russian], submitted on 11 November 2020, https://unfccc.int/sites/default/files/NDC/2022-06/NDC_RF_ru.pdf.

¹⁰ United Nations Framework Convention on Climate Change (UNFCCC), *Report on the Technical Review of the Fourth Biennial Report of the Russian Federation*, 2 September 2020, <https://unfccc.int/documents/249900>.

¹¹ For detailed analysis of changes in the Russian debate on energy transition sparked by the EU Green Deal and the proposed CBAM, see Yana Zabanova, "Navigating Uncharted Waters. Russia's Evolving Reactions to the CBAM and the European Green Deal", in *Heinrich Böll Stiftung E-papers*, November 2021, <https://www.boell.de/en/node/70825>.

¹² Russian Government, *Decree No. 1587 of 21 September 2021: "On Approval of Criteria for Sustainable (Including Green) Development Projects in the Russian Federation and Requirements for the Verification System for Sustainable (Including Green) Development Projects in the Russian Federation"* [in Russian], <http://publication.pravo.gov.ru/Document/View/0001202109240043>.

¹³ Climate Bonds Initiative, *Russian Federation Adopts Green Taxonomy. Matches 100g CO₂ Gas-Power Threshold in EU Parliament's Approved Act*, 10 November 2021, <https://www.climatebonds.net/node/188715>.

¹⁴ European Commission Directorate-General for Financial Stability, Financial Services and Capital Markets Union, *EU Taxonomy: Complementary Climate Delegated Act to Accelerate Decarbonisation*, last updated 11 July 2022, <https://europa.eu/g4pwwqb>.

fossil gas-based electricity generation (100g CO₂e/kWh), which has been lifted from the original EU Taxonomy Regulation by the recently adopted EU Taxonomy Complementary Climate Delegated Act.

While some measures were introduced earlier in relation to adaptation,¹⁵ forest management and reducing environmental damage,¹⁶ the first step towards putting controls on GhG emissions was the submission of the bill "On Limiting Greenhouse Gas Emissions"¹⁷ to the Duma in February 2021. The law committed companies to begin reporting their GhG emissions from 2023 and encouraged the implementation of projects that reduce emissions in exchange for tradeable carbon units. However, unlike the original version, discarded in the process, the final bill, adopted in July 2021,¹⁸ does not impose emissions quotas or penalties on large polluters.

Finally, one of the arguably most significant policy developments came in October 2021, when Russia announced its target to reach net zero emissions by 2060,¹⁹ and presented its updated strategy for low carbon development.²⁰ The strategy examined impacts on climate and the economy under two scenarios – "basic" and "intensive" – and committed to pursuing the latter. The "intensive" scenario would see net emissions reduced to 630 million tonnes of CO₂ equivalent in 2050, from 1.58 billion tonnes in 2019. While delivering positive outcomes for the climate, the "intensive" scenario is set to deliver twice the level of annual economic growth by 2050 compared with the "basic". It identified financial regulation, taxation and budgetary policies as key drivers of change in reducing greenhouse gas emissions by 2060.²¹ Expanding renewables, improving energy efficiency – including smart demand-side management and digitalisation²² – and secondary use of materials in industry were noted in the strategy.²³ The significance of this strategy lies not so much in the fact that Russia committed to net-zero, which is at this point pure rhetoric with few checks in place (as is the case for most countries in the "net-zero"

¹⁵ Russian Government, *Decree No. 3183-r of 25 December 2019* [in Russian], <http://publication.pravo.gov.ru/Document/View/0001202001040016>.

¹⁶ Polina Bakunovich, "Russia Introduces Project Ecology", in *Climate Scorecard*, 13 September 2018, <https://www.climatescorecard.org/?p=18224>.

¹⁷ CMS, "New Bill Limits Greenhouse Gas Emissions in Another Step in the Decarbonisation of the Russian Economy", in *CMS eAlerts*, 2 April 2021, <https://www.cms-lawnow.com/ealerts/2021/04/new-bill-limits-greenhouse-gas-emissions-in-the-decarbonisation-of-the-russian-economy>.

¹⁸ Russia, *Federal Law No. 296-FZ of 2 July 2021: On Limiting Greenhouse Gas Emissions* [in Russian], <http://publication.pravo.gov.ru/Document/View/0001202107020031>.

¹⁹ "Russia Drafts New, More Ambitious Decarbonisation Strategy: Kommersant Newspaper", in *Reuters*, 6 October 2021, <https://www.reuters.com/article/russia-carbon-idAFL1N2R20BO>.

²⁰ Russian Government, *Decree No. 3052-r of 29 October 2021* [in Russian], <http://publication.pravo.gov.ru/Document/View/000120211010022>.

²¹ Ibid.

²² International Finance Corporation and World Bank, *Energy Efficiency in Russia*, cit.

²³ Mircon, *A New Energy Strategy to the Year 2035 Has Been Approved in Russia* [in Russian], 12 June 2020, <https://www.mircond.com/news/utverzhdena-novaya-energeticheskuyu-strategiyu-rossiyskoy-federatsii-na-period-do-2035-goda/>.

club). It lies instead in the fact that with this document, Russian political elites, who for a long time separated the issues of climate and environment from energy, for the first time acknowledged the linkages between climate, energy and economic development.

Despite this largely positive policy and narrative shift, the new Russian energy and climate policy had two major caveats. One is the unwavering prioritisation of hydrocarbons as the main source of revenue – both in the medium and the long term. This reflects the significance of fossil fuels in Russia's economy, comprising an estimated 10 per cent to 25 per cent of GDP,²⁴ and around 45 per cent²⁵ of the federal budget; and a perception of the global transition towards renewables-based economies as a threat to Russia's fossil fuel rents.²⁶ Although Russia's leadership has started to recognise the climate and geopolitical pressures the country faces, its assessments of the future of shrinking oil and gas markets and Russia's ability to maintain a position therein remain optimistic.²⁷

The other major "feature" of the Russian approach to decarbonisation is the massive reliance on nature-based solutions as the central means of delivering on climate ambition and reducing the emissions intensity of the Russian economy – an approach to climate change mitigation that is internationally recognised as insufficient.²⁸ Among other targets, the 2050 decarbonisation strategy foresees the absorption of 1.2 billion tonnes of CO₂ equivalent by carbon sinks (largely in forest areas) by 2050, equivalent to two thirds of the country's carbon emissions. This is extremely implausible, given that to reach this benchmark, the forest absorption capacity needs to grow by 120 per cent, whereas Russia's forest area shrank by 10 per cent over the last two decades, and the rate of deforestation continues to grow.²⁹

All in all, in recent years, Russia has started to find its way of adjusting and ultimately profiting from the structural shifts taking place in the global economy towards a new resource and technology base, albeit not as quickly as it should have. With oil, gas and coal exports largely under state ownership, the Russian government also had both the needed budget revenue for supporting decarbonisation at home, and establishing energy partnerships with key industrialised countries. These

²⁴ Yvetta Gerasimchuk and Yuliia Oharenko, "Case Study: Russia", in *Beyond Fossil Fuels: Fiscal Transition in BRICS*, Winnipeg, International Institute for Sustainable Development (IISD), November 2019, <https://www.iisd.org/node/14626>.

²⁵ IEA, *Energy Fact Sheet: Why Does Russian Oil and Gas Matter?*, 21 March 2022, <https://www.iea.org/articles/energy-fact-sheet-why-does-russian-oil-and-gas-matter>.

²⁶ This perception, prevalent throughout the 2010s, persevered until now and is part of the global energy narrative portrayed in Russia's energy security strategy 2035. Tatiana Mitrova and Yuriy Melnikov, "Energy Transition in Russia", in *Energy Transitions*, Vol. 3, No. 1-2 (December 2019), p. 73-80, <https://doi.org/10.1007/s41825-019-00016-8>.

²⁷ Jean-François Mercure et al., "Reframing Incentives for Climate Policy Action", in *Nature Energy*, Vol. 6, No. 12 (December 2021), p. 1133-1143, <https://doi.org/10.1038/s41560-021-00934-2>.

²⁸ Tatiana Lanshina, "Decarbonization Discourse in Russia: A Stocktaking Paper", in *Heinrich Böll Stiftung E-papers*, November 2021, <https://www.boell.de/en/node/70817>.

²⁹ Global Forest Watch website: *Russia*, <https://www.globalforestwatch.org/dashboards/country/RUS>.

partnerships, as well as cooperation with international energy companies (many of them oil and gas majors as well), could in turn be instrumentalised to access the latest technology, boost the domestic transition efforts and maintain stable political and trade relationships. The 24 February 2022 invasion of Ukraine radically changed the outlook both for Russia's climate ambition and energy transition and for the geopolitics of energy in the region and globally.

2. Russia's invasion of Ukraine: Its energy transition and climate ambition in a new world

Russia's invasion of Ukraine has dramatically shifted the socio-economic and political environment within the country, and the nature and outlook for its trade and broader international relations. Since the beginning of the invasion, Russia has faced a historically unprecedented number of sanctions – over 6,900 – by the world's leading economies, including the EU, the US, the UK, Japan and Australia.³⁰ Under pressure from their shareholders and consumers, over 1,000 foreign companies and investors followed suit in a wave of "voluntary" sanctions by exiting the Russian market completely or significantly restricting their operations.³¹ Russia's key trading partners have drastically shifted their approach towards the country, some breaking with decades-long political doctrines. Germany, a country that had maintained a strong relationship with Russia since the latter part of the Cold War, sticking to its famous "Wandel durch Handel"³² paradigm, abandoned this approach after the war on Ukraine began. EU countries have taken a collective decision to break away from their decades-long dependency on Russian fossil fuels, most notably gas. The new strategy involved phasing out Russian gas supplies from the European energy mix by 2027 by accelerating and scaling up the EU's decarbonisation plans envisaged under the Fit for 55 package, while looking for alternative suppliers for the interim period.

While significant uncertainty remains, and new developments may take place in the coming months and years, the new political, trade and financial environment induced by Russia's act of aggression has already considerably damaged its potential to maintain the once-emerging momentum on climate and energy transition, as well as the competitiveness of its economy in a decarbonising world. The key four obstacles include budgetary restrictions due to the loss of Russia's largest

³⁰ Correctiv, *Sanctions Tracker: Live Monitoring of All Sanctions against Russia*, last updated 6 September 2022, <https://correctiv.org/en/?p=107538>.

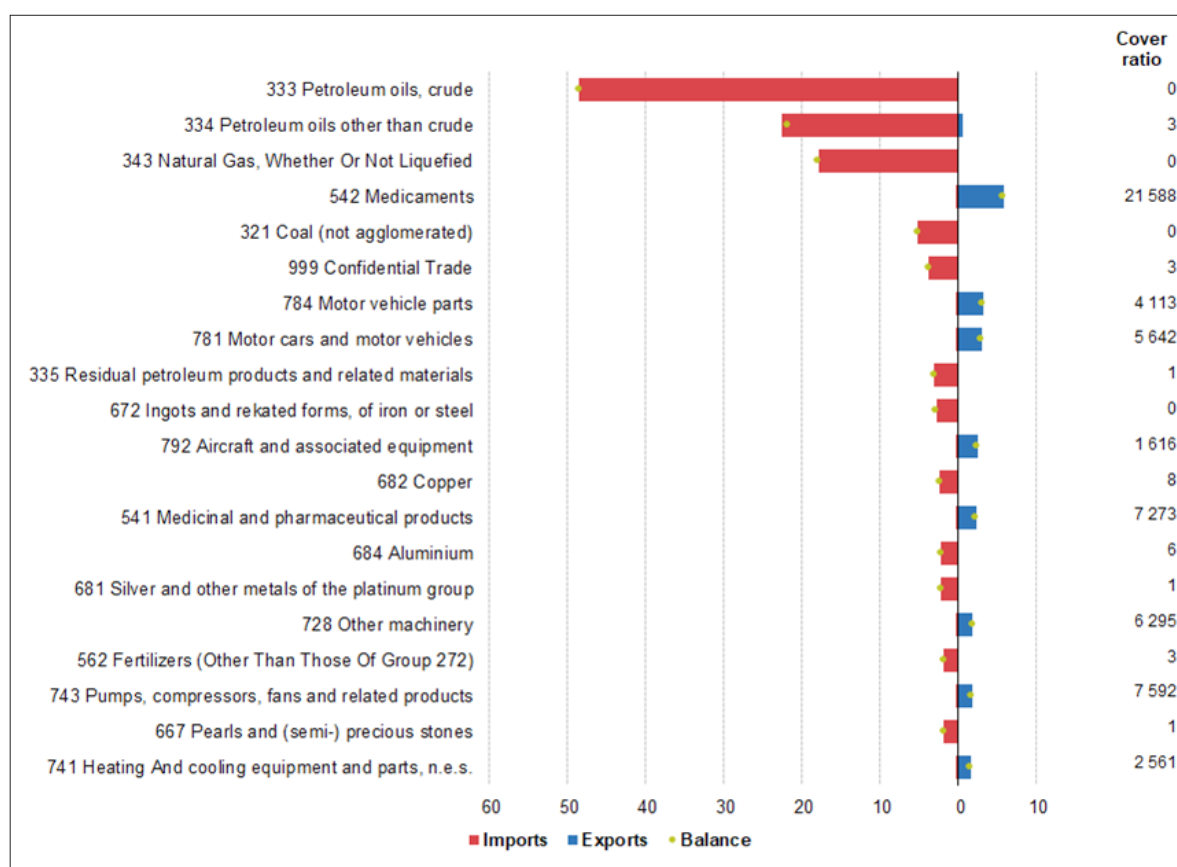
³¹ Chief Executive Leadership Institute, "Over 1,000 Companies Have Curtailed Operations in Russia—But Some Remain", in *Yale SOM News*, last updated 6 September 2022, <https://som.yale.edu/story/2022/over-1000-companies-have-curtailed-operations-russia-some-remain>.

³² Coined to guide Germany's relations with the Soviet Union, the concept of "Wandel durch Handel" (transformation via trade) implies that an authoritarian regime could be opened up politically and socially as long as it has economic impetus to do so (e.g., by trading with liberalised markets). Jörg Lau, "Wandel Durch Handel", in *Internationale Politik*, No. 5 (September/Oktober 2021), p. 15, <https://internationalepolitik.de/de/node/35702>.

commodity export market (Europe); a lack of/restricted access to international investments; a lack of/restricted access to cutting-edge technologies; and a loss of the (external) political drivers for accelerating the transition at home.

Though still unclear to what extent, Russia will be losing its resource base to enable the transition over the next months and years. Over the last decade and until the war began, the EU remained Russia's largest export market, despite its shrinking share. In 2019, trade with the EU accounted for 38.7 per cent of Russia's total exports and 36.2 per cent of imports.³³ In 2021 fossil fuels, most of all crude oil and petroleum products, accounted for over 80 per cent of overall Russian exports to the EU, other top products being coal, gas, iron and steel and copper.³⁴

Figure 5 | Most traded goods between EU and Russia, 2021 (billion euro)



Note: While the trade balance provides information on the absolute value of trading positions, the cover ratio provides a relative measure that is based on the ratio (expressed in percentage terms) between the value of exports and the value of imports; if exports are higher than imports the cover ratio will be above 100.

Source: Eurostat, *Russia-EU – International Trade in Goods Statistics*, cit.

³³ Observatory of Economic Complexity (OEC) website: *Russia*, <https://oec.world/en/profile/country/rus>.

³⁴ Eurostat, *Russia-EU – International Trade in Goods Statistics* (data extracted in February 2022), https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Russia-EU_-_international_trade_in_goods_statistics#EU-Russia_most_traded_goods.

With the EU's embargo on Russia's seaborne crude planned for December, and petroleum for February, combined with a voluntary ban on pipeline crude imports by Germany and Poland, Russian oil exports to the EU will be effectively cut by 90 per cent by early 2023.³⁵ Russian (pipeline) gas exports to the European market have been systematically reduced by Gazprom even before the beginning of the war, and in the first half of 2022 they fell by 25 per cent y-o-y relative to the previous year and are projected to fall by 80 per cent by 2025.³⁶ The embargo on Russian coal imports is in force starting August 10, and an embargo on one of the further key Russian export commodities – steel – has been introduced in March. While some of these commodities (e.g., oil or coal) may be partly rerouted to other markets, particularly in Asia and the Pacific, this will come at a cost (associated with insurance, logistics, discounts to ensure competitiveness against other suppliers). Some commodities will not find alternative markets for a while – e.g., if phased out, Russian gas exports to the EU will not be able to find new offtakes for the next five to ten years due to a lack of infrastructure. The IEA's Gas Market Report, Q3-2022, includes a grim outlook for Russia's gas industry. Compared to last year's forecast for the period 2022–2025, Russia's gas sector will suffer a cumulative production loss of 480–550 billion cubic metres by 2025, equivalent to three-to-four times Russia's exports to the EU. Lack of financing and access to key technologies will significantly slow and eventually curtail the development of Arctic LNG, while the abandonment of Nord Stream 2 will leave two new gas fields – Kharasavey and Bovanenkovo – without offtake agreements.³⁷ This dynamic, combined with the reprioritisation of budgetary spending towards containing the recession,³⁸ financing war actions as well as the country's extensive state and repressive apparatuses, leads to a practically absent budgetary space for delivering the support needed to implement the 2050 decarbonisation strategy. Sberbank has assessed the cumulative investment needs to implement the 2050 strategy at 1 trillion US dollars until 2050, with half going to the energy sector alone. Russia's public finance will not be able to deliver any significant part of this sum in the current environment, and attracting private investments from the traditional source – international majors – does not appear feasible anymore.

Amidst the exodus of foreign companies in the weeks and months after 24 February, several major investors in the energy sector have left Russia as well, making further

³⁵ Ben Cahill, "European Union Imposes Partial Ban on Russian Oil", in *CSIS Critical Questions*, 8 June 2022, <https://www.csis.org/node/65679>.

³⁶ IEA, *Gas Market Report, Q3-2022*, July 2022, p. 85, <https://www.iea.org/reports/gas-market-report-q3-2022>. Gas supply has been cut further in the third quarter, as gas supplies via Nord Stream 1 have been reduced to 1/5 of the pipeline's capacity since late July.

³⁷ *Ibid.*, p. 55.

³⁸ The Russian economy is projected to shrink by 4–6 per cent in 2022 (August assessment by the Central Bank of Russia). Bank of Russia, *Monetary Policy Guidelines for the Year 2023 and the Period 2024-2025* [in Russian], 11 August 2022, p. 49, http://www.cbr.ru/about_br/publ/ondkp/on_2023_2025; Bank of Russia, *Monetary Policy Guidelines for 2023–2025*, 11 August 2022, p. 25, http://www.cbr.ru/eng/about_br/publ/ondkp/on_2023_2025.

development of the clean energy sector at scale problematic. Finnish Fortum and Italian Enel, two of the three largest wind power industry players on the Russian market, are leaving – though the final pull-out or transfer of assets is being slowed down by Putin's recent decree prohibiting any transactions with foreign-owned shares of assets in Russia without his explicit approval.³⁹ Fortum put breaks on new investment projects and plans to withdraw from Russia, while Enel is planning to leave the country within months. Danish Vestas, a producer of wind blades used for Fortum's Russia projects, also intends to withdraw. Due to uncertainty over the future of investments, the Russian government has delayed the competitive selection of new solar PV and wind power projects for construction under so-called "capacity provision agreements" from the second half of 2022 to the first half of 2023.⁴⁰ Russia's renewables sector, which has been becoming more competitive over the recent years and managed to achieve price parity for new solar PV and wind power projects compared to new fossil-based power generation by early 2022, has now only two major players left – Hevel and Rosatom – the latter state-owned. The exodus of oil and gas majors (among the biggest are BP, TotalEnergies and Exxon) is also likely to be detrimental to Russia's decarbonisation efforts. Aside from the interest some of these companies expressed in investing in Russian renewables⁴¹ (although on-paper only), they have been aiming to boost their investments in broader measures reducing the emission intensity of the Russian oil and gas sector, including energy efficiency and methane leakage reduction – in line with their global strategies. Other major companies from other sectors (most importantly retailers like IKEA⁴²), that were interested in investing in renewables in Russia to comply with their own decarbonisation strategies, have also left Russia. The exodus of international investors from the Russian energy sector is highly likely to persist, even in the unlikely scenario of Russia's leadership stopping the invasion of Ukraine and starting peace talks in the immediate perspective. Russia's first default since 1918, being cut off from SWIFT (one of the key components of the global payments system), and the investment risk perceived due to sanctions and the Kremlin's retaliatory policies have not only driven "Western" investments out of the country. They are also repelling any new investment decisions from countries the current Russian regime calls "friendly", most importantly China, for which the Russian market is not significant enough to further strain relationships with the EU and the US – both economic partners of a far bigger weight.

³⁹ Russian Presidency, *Decree No. 520 of 5 August 2022: "On the Application of Special Economic Measures in the Financial and Fuel and Energy Sectors in Connection with the Unfriendly Actions of Central Foreign States and International Organisations"* [in Russian], <http://publication.pravo.gov.ru/Document/View/0001202208050002>.

⁴⁰ "The Second Renewable Energy Support Programme in Russia Is the Final One" [in Russian], in TASS, 14 July 2022, <https://tass.ru/ekonomika/15215355>.

⁴¹ BP, *Rosneft and BP Agree to Cooperate on Carbon Management and Sustainability*, 4 February 2021, <https://www.bp.com/en/global/corporate/news-and-insights/press-releases/rosneft-and-bp-agree-to-cooperate-on-carbon-management-and-sustainability.html>; "Total Energies Can Invest in Green Projects in Russia" [in Russian], in NANGS, 7 July 2021, <https://nangs.org/news/renewables/total-energies-mozhet-investirovaty-v-zelenye-proekty-v-rf>.

⁴² "IKEA Makes First Solar Park Investment in Russia", in Reuters, 13 April 2021, <https://www.reuters.com/article/ikea-energy-russia-idAFL1N2M60RS>.

The break-up of international and business-to-business partnerships does not only result in the lack of new money. It comes with restricted access, and in some cases, a ban on the import of new technologies that are key for Russia's decarbonisation. These include not only components needed to lessen the CO₂ and methane emissions intensity of Russia's oil and gas sector, but also the components for boosting the deployment of competitive renewable generation facilities (particularly in the wind sector, which has more physical potential in Russia), as well as software and semiconductors that are key for digitising and "smartifying" Russia's energy production and consumption processes. Securing some of these technologies and high-tech goods from other markets, e.g., China, India or Turkey, will be possible, yet one cannot expect a smooth pivot away from the West here either, due to logistical bottlenecks and the overall trade risks associated with the sanctions regime. Cooperation with "Western" partners on emerging technologies, on which the 2050 strategy is betting for decarbonising Russia's energy sector – hydrogen and carbon capture and storage (CCS) – has been thrown several years back as the dialogues have been interrupted and resuming these efforts with partners from "friendly" countries is likely to be hampered by changes in both the financial and the political environment.

Finally, external policy instruments that have been driving Russia's decarbonisation agenda have practically lost their role as a driver in the current environment. The EU's announced Carbon Border Adjustment Mechanism (CBAM) policy, which is only going to be introduced in 2023, has provided a major impetus for Russian industry stakeholders to rethink their decarbonisation strategies and timelines, and, in turn, to provide a push to the Russian government to ensure that the enabling policy and regulatory environment is in place for them to do so. CBAM, however, assumed uninterrupted trade relations with Russia, including in goods categories that will be subject to the carbon tax. The relevance of this instrument is considerably lower now, with iron and steel, which account for about half of Russian exports subject to CBAM,⁴³ banned from the European market. Whether "green steel" remains on the agenda of Russian industry without its main demand centre, is highly uncertain.

3. Russia and the new geopolitics of climate and energy: A tentative outlook

Political space for engaging Russia on climate, as well as the financial and market space for enabling the transformation of Russia's energy system towards climate neutrality are now extremely constrained. In the current context, Russia's clean energy and (still fairly low) climate ambition is hanging by a thread – at least until

⁴³ Mirela Petkova, "Weekly Data: EU's CBAM to Impact Russia, China and the UK the Most", in *Energy Monitor*, 7 February 2022, <https://www.energymonitor.ai/?p=74473>.

there are significant shifts in the present sanctions regime.

While the outcome of the Ukraine war and the future of the Russian economy and political regime are anything but certain, it is very likely that Russia's pre-COP26 role of a "game-spoiler" on global climate ambition will resurface with new strength. The major focus may now be on blame-shifting onto the EU, the US and other parties to the sanctions regime as the triggers of the global economic crisis and major blockers of progress on climate. Early signs of using climate as a bargaining chip were present already at COP26, when Russia declined to join the Global Methane Pledge,⁴⁴ seeking sanctions relief for "green investment projects" for state-run fossil fuel companies such as Gazprom.⁴⁵ One of the biggest methane emitters, Russia has been increasing flaring at both oil and gas production sites (with a 23 per cent increase for the first five months of 2022 compared to the same period last year⁴⁶) as the companies have a production surplus, and at the transport junctures, most evidently at the Portovaya compressor station of Nord Stream 1, which now operates at 20 per cent capacity or less.⁴⁷ Though the government has until now declined requests by the oil and gas industry to increase the flaring allowance limit from 5 per cent to 30 per cent of production, the petroleum gas is still being flared, throwing Russia further back on its climate ambition – something it can now conveniently blame on the Western sanctions. Referring to climate ambition ahead of this year's COP27 climate conference, Russian vice-minister of foreign affairs recently stated that the sanctions against Russia have been not only a hard hit for the Europeans' purse, but for ecology in general.⁴⁸

The pivot of Russia's key energy partners towards decarbonised energy systems and, in the medium term, towards alternative fossil fuel suppliers on the one side, and Russia's quest for access to alternative export markets and technologies on the other, will lead to new geopolitics of energy on the Eurasian continent and beyond, with the first trends already emerging.

With its historic supplier of fossil fuels becoming a major economic and security liability, the EU and its member states are reconfiguring their energy relations

⁴⁴ The pledge, signed by over 100 countries, aims at reducing the global methane emissions by 30 per cent by 2030.

⁴⁵ Marc Champion, "Russia Wants to Protect the Planet and Gazprom at Climate Summit", in *Bloomberg*, 21 October 2021, <https://www.bloomberg.com/news/articles/2021-10-21/russia-will-see-sanctions-relief-for-climate-projects-at-cop26>.

⁴⁶ "The Ministry of Energy and the Ministry of Natural Resources Will Not Suspend Fines for Associated Petroleum Gas Flaring" [in Russian], in *Vedomosti*, 21 July 2022, <https://www.vedomosti.ru/economics/news/2022/07/21/932372-minenergo-i-minprirodi-ne-priostanovyat-shtrafi-zazhiganiye-png>.

⁴⁷ "Russia Flares Surplus Gas It Does Not Market", in *Atalayar*, 8 August 2022, <https://atalayar.com/en/node/27824>.

⁴⁸ Anatoly Komrakov, "Sergey Vershinin: Sanctions Hurt Not Only the Wallets of Our European Partners, But Also the Ecology in General" [in Russian], in *Nezavisimaya Gazeta*, 2 August 2022, https://www.ng.ru/economics/2022-08-02/4_8502_sanctions.html; "Western Anti-Russian Sanctions Hurt Ecology – Senior Diplomat", in *TASS*, 3 August 2022, <https://tass.com/politics/1488487>.

with a much stronger geopolitical vector towards the Middle East and North Africa (MENA). This shift goes beyond the short- to mid-term dash for non-Russian liquefied natural gas (LNG) and pipeline gas (as in the case with German-Qatari negotiations, the EU's Memorandum of Understanding (MoU) with Egypt and Israel, or its MoU with Azerbaijan). New partnerships aim also at mutually beneficial long-term cooperation in the energy sphere, supporting the transitions of energy systems and economies to a low-carbon/renewable resource base. Several partnerships offer a framework for such cooperation: the EU–Gulf Cooperation Council partnership; the EU–MENA Future Energy dialogue (launched this year); or the “hydrogen diplomacy” offices opened by Germany in MENA countries with high renewable potential.

Along with this shift, and obvious interest within the countries of the MENA region to use the ongoing geopolitical turbulence and forge stronger energy and trade relationships with the EU, there is a divide between the EU and emerging markets and developing economies (EMDEs). This divide has been widening since the Covid-19 pandemic, and now threatens to cement the North-South gap and the lack of trust in “Western” energy and climate governance. As the EU started to aggressively tap into the global LNG markets in the wake of the war, it ended up pricing out price-sensitive importing countries in South and Southeast Asia (among them Bangladesh, Pakistan, Thailand and others). These countries' discontent with Western politics grows, as they are forced to resort to coal- and oil-based power generation and demand curtailment to avoid blackouts and social unrest. This is taking place amidst one of the biggest economic and food crises, exacerbated by climate impacts, such as the recent South Asian heatwave and floods.

To maintain its position as a global leader on the energy transition and climate, the EU will need to find ways to accelerate its transition away from reliance on Russian, and ultimately all fossil fuels, without harming the economies of other countries. This can be done by strictly managing and reducing the EU's own fossil fuel demand, ramping up investments in enabling clean energy infrastructure and efficiency in the most vulnerable countries, and leading on the establishment of resilient and transparent supply and value chains, among other measures. Whether it will be able to do so will be one of the key factors shaping the geopolitics of energy in this decade.

Russia is very unlikely to turn into an economic pariah akin to Iran, due to the sheer size and a different structure of its economy, and MENA as well as Asia and the Pacific will be the regions where it will wrestle with the EU and the US for spheres of influence. An early iteration of this trend is Russia's rerouting of parts of its seaborne oil exports away from the US and EU markets: offering heavy discounts, Russia has managed to sell growing quantities of crude to India and China, and fuel oil to Saudi Arabia. It is, however, doubtful whether this will lead to the formation of an “authoritarian energy club” around Russia as the major resource base. While Putin's government boasts of high-level agreements in principle signed with some

of these countries, including the Memorandum of Understanding with Iran⁴⁹ and the Roadmap for Economic Cooperation with Turkey, these and other countries including China do not have a lot of appetite for turning political rhetoric into action.

It is likely that these economies will use their relationship with Russia to support their own energy interests, including consolidating a pro-gas lobby at this year's COP27 or the G20; maintaining the existing oil and gas governance fora where Russia is a member, including OPEC+ and the Gas Exporting Countries Forum; and securing access to cheaper oil and coal, or to critical minerals such as nickel, zinc, uranium or copper. However, barely any of these economies (aside from, possibly, Iran, which itself has been under US sanctions for over forty years) would risk their relations with much bigger trade and technology partners by letting their relationships with Russia evolve beyond the current "energy and resource opportunism" – at least until the war is over.

All this provides a twofold challenge for accelerating global climate action. On the one hand, the global energy and economic crisis – both to a large extent exacerbated by Russia's invasion in Ukraine and the new geopolitical and geoeconomic course both Russia and the "Western" economies have taken – risks putting brakes on transformation of global energy systems and weakening the world's climate ambition. Making sure this does not happen largely depends on whether EU member states, the US and other industrialised economies manage to stick to their domestic decarbonisation plans and reclaim their global leadership on climate and energy transition. At the same time, it is essential that these countries start ramping up financial, political and regulatory support to EMDEs – to cushion the shocks of the ongoing global crises (beyond energy) and pave the way for an accelerated and managed shift to renewable-based economies.

On the one hand, even the economic slowdown in Russia, exacerbated by sanctions, does not change the fact of Russia being the fourth largest CO₂ emitter and the third largest emitter of CH₄. Hence, unless it embarks on a pathway towards climate neutrality, the goal of containing global warming within 1.5°C stays beyond reach. While resuming full-fledged cooperation with Russia on any front, including climate and energy, seems unimaginable at this moment, the EU, its member states, the US and other economies partaking in the sanctions regime will need to find a *modus operandi* that at least keeps the bare minimum of cooperation alive.

There are at least two areas where action is possible and necessary even now. First, maintaining academic ties and enabling the participation of climate and energy scientists from Russia in the international scientific community is key both from the data availability and monitoring perspective (including emissions data; data

⁴⁹ "Iran and Russia's Gazprom Sign Primary Deal for Energy Cooperation", in *Reuters*, 19 July 2022, <https://www.reuters.com/business/energy/iran-russias-gazprom-sign-primary-deal-energy-cooperation-2022-07-19>.

on environmental degradation – particularly in most vulnerable regions, e.g., the Arctic; deforestation; absorption capacity of carbon sinks, etc.). It also prepares the ground for industrial and political cooperation at a later point, when the dialogue with a broader group of stakeholders in Russia becomes possible again. Second, supporting the civil society and academia in exile, given that many environment and climate activists, political scientists, economists and energy experts had to flee Russia after the war due to the risk to their and their families' wellbeing, is essential for ensuring the future of the Russian climate and energy research and civil society community beyond the current regime.

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